Electrical Interconnect structure and a Method of Forming Electrical Interconnects Having Electromigration-Inhibiting Segments

Abstract of the Disclosure

A method is provided for forming integrated circuit electrical conductors with electromigration-inhibiting/electrically conductive plugs disposed between electrically conductive segments of the electrical conductor. In accordance with such method, windows are formed within a planar surface. An electromigration-inhibiting/electrically conductive material is deposited over the planar surface and through the windows to fill the windows and thereby provide, in such windows, plugs of electromigration-inhibiting/electrically conductive material. Portions of the electromigration-inhibiting/electrically conductive material are removed to form the plugs with surfaces co-planar a surface surrounding the plugs. The electrical conductive segments are formed within the same planar surface as the plugs, either before, or after the plug formation. The electrical conductive segments have surfaces co-planar with the plugs, are aligned with and electrically interconnected through the plugs. The plugs are formed at a distance less than, or equal to, the predetermined critical length, L_c, from each other.

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